

WHAT IS CLAIMED IS:

1. A solid-state image pickup apparatus comprising:
a solid-state image sensor comprising a plurality of photosensitive cells arranged in bidimensional arrays for converting light incident from a desired scene to corresponding signal charges, a plurality of vertical transfer paths configured to transfer the signal charges in a vertical direction, and a horizontal transfer path configured to transfer the signal charges transferred by said plurality of vertical transfer paths in a horizontal direction,

each of said plurality of photosensitive cells having a photosensitive area divided into at least two photosensitive regions,

each of the photosensitive cells around a given photosensitive cell being shifted from the given photosensitive cell by substantially half a pitch which is defined as a distance between the photosensitive cells adjoining each other in the horizontal or the vertical direction,

each two of said plurality of vertical transfer paths being formed between said photosensitive cells arranged in the horizontal direction, and extending round one array of said photosensitive cells each,

said image sensor being formed with electrodes for feeding open/close control signals to gates, which have an opening/closing function for reading out the signal charges from said at least two photosensitive regions of said photosensitive cells either individually or simultaneously;

a timing signal generator for generating timing signals for driving said electrodes either individually or simultaneously;

a format converter for converting image signals derived from the signal charges, which are read out from said image sensor, to corresponding values having a predetermined format for photometry; and

a parameter determining circuit for using a quantity of light incident during an exposure time and determining whether or not the values with the predetermined format are adequate,

said parameter determining circuit weighting, if the values are adequate, the values to produce an amount of exposure, thereby determining exposure parameters for picking up the desired scene.

2. The apparatus in accordance with claim 1, wherein sensitivity of an individual photosensitive cell is determined in terms of an area ratio of said photosensitive regions or sensitivity of an individual photosensitive region.

3. The apparatus in accordance with claim 1, wherein said photosensitive regions of an individual photosensitive cell are divided in consideration of a ratio of weights assigned to image signals, which are produced from different zones constituting a frame where said photosensitive cells are arranged,

said gate and said electrode being formed in each of said photosensitive regions.

4. The apparatus in accordance with claim 2, wherein said photosensitive regions of an individual photosensitive cell are divided in consideration of a ratio of weights assigned to image signals, which are produced from different zones constituting a frame where said photosensitive cells are arranged,

said gate and said electrode being formed in each of said photosensitive regions.

5. A photometric method comprising:

a first step of preparing a solid-state image pickup apparatus comprising a solid-state image sensor which comprises

a plurality of photosensitive cells arranged in bidimensional arrays for converting light incident from a desired scene to corresponding signal charges, and in which each of said plurality of photosensitive cells has a photosensitive area divided into a plurality of photosensitive regions, the photosensitive cells around a given photosensitive cell each are shifted from the given photosensitive cell by substantially half a pitch which is defined as a distance between the photosensitive cells adjoining each other in the horizontal or the vertical direction;

a second step of determining parameters for exposure of light incident to said photosensitive cells;

a third step of executing the exposure of said photosensitive cells in accordance with the determined parameters as photometry;

a fourth step of reading out signal charges derived from the photometry from each photosensitive region of an individual photosensitive cell;

a fifth step of determining whether or not the exposure in each of a plurality of photometry zones where said photosensitive cells are arranged is adequate;

a sixth step of correcting, if the exposure is not adequate, the parameters used for the photometry; and

a seventh step of executing, if the exposure is adequate, a weighting operation with a result of the photometry to thereby determine exposure parameters for picking up the desired scene;

said third step to said fifth step being repeated after said sixth step.

6. The method in accordance with claim 5, wherein when either one of a center zone and a predetermined zone of the frame is designated as a photometry zone, a signal charge is read out only from one of said photosensitive regions of the individual photosensitive cell higher in sensitivity than the other photosensitive region or a signal charge is read out,

when said signal charge saturates, from said other photosensitive cell.

7. The method in accordance with claim 5, wherein each of said photosensitive regions of the individual photosensitive cell outputs a signal charge weighted by a particular weight identical with a weight assigned to one of said photometry zones where said individual photosensitive cell is positioned, whereby the weighting operation of said seventh step is omitted.

8. The method in accordance with claim 6, wherein each of said photosensitive regions of the individual photosensitive cell outputs a signal charge weighted by a particular weight identical with a weight assigned to one of said photometry zones where said individual photosensitive cell is positioned, whereby the weighting operation of said sixth step is omitted.